"Data Eye in the Sky: Satellite Imagery as a Neoliberal Optic"
Monica M. Brannon
The New School for Social Research

Abstract: As satellite imaging technology has transitioned from a Cold War military technology to a commercialized and publically accessible tool, it has become associated with democratic ideology by increasing 'transparency.' This article suggests that this transition and the subsequent management of risk associated with 'opening up' the technology are embedded in larger structures of data driven world. These processes are indicative of a neoliberalization of the state and the creation of a calculative neoliberal subject, in which this visuality contributes to a standard quantification of social action and space. Cases show how this politically embedded technological access is rearticulated into new forms of surveillance that mimic the military gaze but operate through citizens and corporations with new relations blurring traditional public/private divides. The emergent visual epistemology is particular to a neoliberal optic formed through the convergence of technologies of seeing and the commercial datafication of the social world.

Zooming in on one's apartment presents a moment of technological awe, visualizing as machine from a non-worldly view that was previously relegated to secret military reconnaissance. From the development of spy satellites in the 1950's, this technology has been attributed with making the world more transparent through rendering space 'seeable' from a perspective and scale previously unattainable. The 'closed' secret, state visuality has since been suffused through the public largely by private companies creating Internet platforms that 'open' the world to view. The design of 'digital globes' where satellite images are mashed together to create seamless representations of geographical space arose as a result of specific government policies encouraging privatization. Though neoliberalization is characteristically understood as a retreat of the state in favor of a 'natural' free market, the socio-technical network of satellite imaging technology showcases the extended operation of the state in creating a new market, establishing companies as viable actors in this sphere, and in the management of data. Controlling the access and flow of data through weighing public benefit versus risk of security threats by use of satellite images constitutes a contemporary moment in the structural intersection among politics, technology and cultural practices. Neoliberalism, as a state crafted political ideology that operates by extending market rationality to all spheres of action, emerges as new practices of surveillance are used as a response to a political management of risk. Legitimacy for such governance mechanisms is claimed through a democratic ideal of transparency, when in fact, the visual logic produced through access to an increasingly data-intense social world shapes neoliberal subjects expected to manage, calculate and be responsible for their autonomous selves situated between increased corporate offerings of endless information and decreased state civil protections. The result is a historically and politically contingent way of seeing and using data that references spaces, and a framing of epistemological subjects that guide meaning, values and action in relation to this technology.

In analyzing the public access of satellite imaging technology as a result of commercialization, this case exemplifies the intersection between science studies, which interrogates the material infrastructure and its framing of the social world, and theories of neoliberal rationality as a historical political movement resulting in new forms of governance and subjectivation. The ways in which this visual technology is touted as increasing a democratic transparency, yet is indicative of a moment of intense datafication—the collection of and management through quantified reduction of social action, spaces, and identities—displays a market logic spread beyond the economic sphere to digital infrastructures that mark material forms of logistical state power. This paper will expose the links between neoliberal tactics of governance in the constructing of satellite imaging technology explaining how commercializing the industry both increased public access, but has also created new forms of surveillance and subject formation through instituting technological datafication as a managing technique. The paper ends with cases studies showing rearticulations of traditional public/private divides that problematize normative assumptions of technological access and also display new forms of visual power.

The historical development of a networked, digital circulation of data in conjunction with open and public access has instituted a neoliberal discourse of technology in which an ideological rationale is promoted on the grounds of increasing democratic potential, individual creativity and self-autonomy for citizens. As exemplified in the title of RAND Corporation and ASPRS collection, *Commercial Observation Satellites: At the Leading Edge of Global Transparency* (Baker et al., 2001) there is a direct epistemological coupling with visualization and access to truth, in this case, through commercial means. Transparency, or the ability to see through, make perceivable and be detected-- is contrasted against the invisible, the opaque, and the unseeable. The notion that public access to images offers a visual insight to knowledge about spaces and subjects of precise factuality and a moral veracity is rooted within historical breakages with secrecy, classified knowledge and a closed world. Transparency is normatively understood as allowing public scrutiny or oversight with chance of intervention, assuming that visual knowledge allows for greater understanding (Birchall, 2011). Rather than what content is being seen, or what context it is seeable, it is the process of opening to visual critique that supports a democratic discourse, presenting digital globes as agents of democracy based on the social-political structure in which they are situated.

While companies have long been involved in the building of satellites through government contracts, the mid 1990's mark the era when outer space has become increasingly privatized. Written into U.S. space policy since the Carter Administration, the intent has been to create a new market for companies by removing regulatory barriers to operation. Technological development in satellite resolution and new software for manipulating data drastically increased user demand for scientific satellite images that had been available since the 1970's. The creation of 'digital globes' in the mid 2000's by Google and Microsoft offered composite, seamless satellite images that mimicked both maps and globes. This diffused satellite imagery through the public and offered a glimpse into technology that had previously been associated with government surveillance. Alongside these developments, subsequent political questions regarding the 'risk' of such transformations have been raised.

Neoliberalizing Technology

In a recent *Social Studies of Science* issue, editors Rebecca Lave, Philip Mirowski and Samuel Randalls (2010) outlined the "deeper changes in scientific practice, management and content as neoliberal concepts have been used to justify major innovations in the structure and organization of science." (664) The shift from liberal policy of passive laissez-faire economy to activist market-oriented ideology as the generator of social welfare is especially relevant in understanding the commercialization of satellite imaging technology through concerted effort by the state (Lave et al., 2010: 661). Because this technology was not 'invented' through the innovation driven by competition but was created by military research and development—it is an exemplary case in how technology develops athwart political action. The increase in users and ubiquity of satellite technology in the present is not a natural result of growing demand by the public, or through free competition in the natural market, but instead through the direct design and political implementation that created users through controls and

limitations. This can be read as a specific form logistical power—the material, and in this case, digital, infrastructure that recede from consciousness but frame patterns of governmentality and define social worlds. Through creating norms of practice alongside an illusion of freedom in using technology as a neutral tool, a material order seemingly outside of political influence appears as natural. This 'impersonal rule' is inflected with cultural ideals, yet outside of awareness and constructs the mode through which material order shapes social order as the 'silent power of artifacts.' (Mukerji, 2010). The logistics of risk management as framing policy, alongside the strategic 'transparency capital' (Birchall, 2011:8-9) gained through 'opening' the formally closed technology present a form of infrastructural state power in the noncoercive influence over civil society (Mann, 1986; Novak, 2008).

Promoted as growing the economy through a robust market, the state deliberately instituted mechanisms by which corporate entities could enter and expand the market, with the funding an Office of Space Commercialization within the Department of Commerce to promote U.S. businesses by limiting government competition and promoting less regulation. Shifting the production of data to companies rather than maintaining government satellites, contracting out data acquisition (including for military use) and a guarantee of funding has allowed corporations to infiltrate the market and create new knowledge products and practices that dominate user interaction. Being the platform through which the public sees images as the organizing logic of a digital globe, an ideology of democratic access is linked to corporations such as Google, and furthers neoliberal support for commercializing science as fulfilling public services in replace of the government. 'Freedom' of information and data transparency operate through a structure of logic linking political ideology with information accessibility.

Attributed by media with 'revolutionizing' (see for example, Povoledo, 2007; Ratliff 2007) the way in which the world is seen, the commercialization of the industry is claimed to have created 'global transparency' (see Harris, 2011), while at the same time has turned images into commodities subject to the laws of the market. Exchanged and consumed through a digital knowledge economy, access to this platform presents the market as the best venue through which to exchange and circulate such technologically sophisticated data. The 'reality' of geophysical land further fades from cognition as even geopolitical disputes are played out through this communicative realm, seen most recently through controversy surrounding the border between Nicaragua and Costa Rica when Google Maps showed disputed territory as within the political boundaries of Nicaragua (Jacobs 2012). The claims of transparency exist on both literal and metaphorical registers, both in the visual access to space, and the knowledge of or about spaces, as a mediated logic of data flow. Yet, this is not a single view, but also an opening of access to data of citizen subjects on the ground, with spaces networked and seeable by all with no directed targets. In fact, this exchange of information is also the exchange of capital, and how the direct interests of corporations are acting to create wealth through this new market is overshadowed by an ideology of a democratic public sphere of the internet age.

Further, within the discourse of neoliberalism, market rationality is extended to every sphere of social action, and has established the subject as a rational, calculative, entrepreneurial actor who has access to any information needed, facilitated through free networks 'at our fingertips.' Information allows the individual to invest fully in the self

through informed decisions and calculations, and is subsequently held responsible for such actions. The market becomes the operational logic and regulative principle for the state, with the growth of the economy as a primary factor in the health and security of the nation, as well as the organizing factor for social practices (Brown, 2003:14).

The privatization of this technology is not a relinquishing of state power, but constitutes a technique of governing as controlled, rational, economic action is propagated throughout society (Brown, 2003:17). In the case of establishing new commercial markets through state technologies, restructuring happens internally between state and corporations. The neoliberal state acts to deregulate markets and privatize services, combined with liberal democracy through the promotion of rights—both individual and corporate (acting through political, economic and cultural levels) and redefining notions of 'freedom' (Harvey, 2005; Ong, 2007; Centeno and Cohen, 2012). Free access to digital globes in which users are encouraged to personalize and create new layers of information, at the same time are sites of market data collection by companies, creating new epistemelogical knowledge spaces in which cartographic, digital and corporate logics converge. Neoliberalism as a technique operates through the remanagement of populations as a logic of administration, in relation to the rise of 'knowledge' or 'information' society in which information capital connects both economic and cultural practices to reconfigure subjects and possibilities of action—through the promotion of 'self-managing' citizens (Ong, 2007). Companies who offer this access provide a pre-packaged data product as a commodity, and in return, gain access to social behavior translated into quantifiable data forms. The costs of opening visual access are returned through access to consumer information for better marketing, development of products and profit.

Technological Risk and Securitization

The increased accessibility of satellite imagery mirrors increasing processes of risk construction and management. Alongside making the world visible to the public is the simultaneous concern for a national security based on the threatening nature of the anonymous viewer. Substantiating neoliberal ideology, the transition from state control to market exchange presents a tension between securitization through risk discourse and freedom of use, where the state is framed as a vulnerable object. Managing through risk calculation is governance through data prediction, algorithmically defining social behavior. This was highlighted when the post 9/11 security state focus on terrorist threats was connected with access to satellite images as Google Earth images have been found among attackers' possessions. Exemplified through news headlines such as "Google Earth Accused of Aiding Mumbai Terror Attacks" (Blakely, 2008) or "Hamas: Fatah used Google Earth to pinpoint Gaza targets for IAF" (*Haaretz,* 2009), the visual technology stands in for security breaches. Because of the unique vertical perspective previously normalized as military reconnaissance, the level of resolution in which building plans and specific structures can be detected has raised debate over how much information should be seen by the public.

In response to such concerns, a report, "U.S. Commercial Remote Sensing Industry: An Analysis of Risks" by the RAND Corporation and the National Defense Research Institute (2001) found that there are thousands of publicly available resources

for geospatial data and that a single source is not crucial for a terrorist attack. The report concluded that restricting geospatial data does not necessarily outweigh the public social benefits. Additionally, RAND researcher Kevin O'Connell (2001) notes in "Intelligence in the Information Age; Spy Data for Sale" that the abundance of data available through information technologies creates more transparency and fewer secrets. He argues the data itself cannot expose secrets or intention, and so should not be limited. Answering questions regarding risk within a logic of increased data accessibility marks the way in which a system of data inundation works to render less import on specific uses.

The Director of Google Earth, John Hanke, was reported as defending his company, arguing that "while this debate had 'mostly died off' in the West, it was still a live issue in countries where the government is used to controlling everything. . . Often this concern was a pretext for a government trying to reassert control over its 'closed information societies'. . . The idea that open information is valuable is more baked onto Western culture"(*Sydney Morning Herald*, 2009). The concern with the management of risk as a control of information, and the quantification and calculation of benefit versus risk requires a particular reduction of technological relationships between forms and users. This direct link between risk and transparency frames the debate as one in which images are decontextualized and scrubbed of political context, reduced to data bytes that are both innocuous and exchangeable commodities, yet at the same time the site of potential threats. The only possible response can then be whether the social benefit of transparency measurably outweighs the negative impacts of those who may use the information for harm. However, looking at how risk is constructed through this technology, rather than a question of whether the technology itself is 'risky', highlights the changing administration of risk as a justification for political action.

Through national policy, funding and contracts, the U.S. state has shifted control over to corporations while at the same diminishing the ability to regulate them. The justification made for this process is that more robust businesses leads to better technology, which further contributes to national security through market control. The rationale of securitization of the markets as a means to secure a nation presents a particular use of economics as political hedging. As exemplified by a RAND Report (2001): the "DOC [Dept. of Commerce] must assume a greater leadership role in the interagency process in setting the tone for a responsive policy and regulatory environment based on the assumption that a synergy exists between promoting American industrial competitiveness in remote sensing space capabilities and protecting U.S. national security and foreign policy interests" (13). This 'synergy' presents a shift from a government role of regulation and protection of citizens to support for businesses as a privatization of security. Linking national security with market domination justifies government intervention in the market through direct promoting, and funding, of U.S. businesses—using public resources for private company profit, through the logic of neoliberal market security.

Governing through risk by expert knowledge regimes uses threats to produce both cultural justifications of new political forms and also the production of capital and economic activity. Risk management through calculation, identification and prediction ties surveillance practices to the increased accumulation of data regarding social practices. This has been theorized as a shift from 'risk socialization' in the somewhat closed national economy of the Fordist era with a stronger welfare state to a neoliberal

concern of technological risk in business 'climate' with an uncertainty of profit as paralleling the uncertainty of the security risk of terrorism (Passavant, 2005). In the case of satellite imaging, these forms converge through claims that robust industry creates the best technology and in turn a more secure nation. The constructed relationship between the claim that strong businesses necessarily have the best technology, and therefore keep it out of the hands of other nations as the avenue towards a more secure nation is used to justify relaxing regulations on the commercial satellite imaging industry, as well as regulating through contracts rather than legislation. This is in direct contrast to an older model of maintaining strict division between military and civilian technologies with national security kept intact by relegating the users of advanced technology to an exclusive state sphere. The 'betting' on risk, justifies strategies through which to better hone assessments through data accumulation within all spheres. Transparency, in this case, is also greater scrutiny of the public in the loss of civil protections through a justification that more data leads to better predictions.

The calculation and management of risk as a neoliberal strategy is referred to by Allen Feldman (2005) in defining the 'actuarial gaze' as: "a visual organization and institutionalization of threat perception and prophylaxis, which cross cuts politics, public health, public safety, policing, urban planning and media practice." (206) This notes the singularity of view as a logic of perception, machine seeing through which technocratic visualization of risk exists as manageable forms, specifically in using increasing tracking and surveillance as forms of securitization. This 'reflexive modernization' presents the conundrum where management of technology sits as both site of threat and the means by which to control it (Beck et al., 1994). The discourse of transparency organizes data management regarding the framing of risk—increased access of all forms will create security. At the same time, mechanical automation of risk technologies create distance through anonymity and invisibility—unseen satellites, systematic data collection by machines, unknowing surveillance of spaces where individuals are not visible. Therefore, there exists a simultaneous concealment, a 'screening' out, in the industry of risk prediction with contention arising between state power as protecting the security of a sovereignty against the everyday life structures and practices of the citizenry that are ever illusive and impossible to fully predict (Feldman, 2005: 207).

The attempt is for "greater privatization of risk calculus at the level of the individual," characteristic of the neoliberal era (Gill, 2003: 21). The individual subject sits simultaneously as the site of threat to the security of the nation, and also as being responsible for and pressured to invest in the social well-being of the self. The future of one's social reality is reliant upon investment in one's health, retirement, housing, the stock market and security in the present, a management and administration of life. Responsibility for the self is promoted alongside information tools to navigate systems in which to assess the greatest outcome. These tools are generally touted in the name of information access with democratic rhetoric of transparency, openness and self-autonomy. The deluging of information and tools to quantify all parts of life, alongside the ability to perform one's profiled self through social media reporting, constructs the self-management of the individual as a form of subjectivization indicative of data access through networked internet platforms.

The disciplining of the individual to be responsible for her well-being is legitimated as a facet of 'market civilization' which dictates what choices should be made by the 'natural' laws of the market with the most competition and efficiency for individuals (Gill, 2003). These processes directly contribute to the claims of information access as exemplifying an increasingly transparent and democratic world. With Google's motto to make the world's information more accessible, and giving the world the information they need, the underlying assumption is that it allows individuals to act from a more informed perspective (Rosenberg, 2004). Downplayed, is how information is crafted as a particular product—specifically written for a specific type of user and not an objective exposure to 'raw' knowledge. Further, this link between more information and more informed citizens is not a causal one, as access to satellite imaging technology does not necessarily result in a greater understanding of geopolitics or the latent structures that constrain how one can 'read' the images as the technical converges with the social. Paradoxically, information access by subjects also places the users under scrutiny through the tracking of behaviors linked to technology and locations, contributing to archives of data coding of social action. Risk is recalculated as prediction and intervention—with datafication as that which is both the answer to security and also that which threatens it.

Risk Mitigation Through Surveillance

The strategy of post 9/11 total surveillance systems is to predict threats before they occur through the aggregation of information about subjects, and, more specifically, subject behavior as indicative of identity and future action. With enemies unknown and undefined, surveillance is based on calculation of information of all citizens, a system of datafication as representing behaviors and identity profiles. While the post 9/11 national security program Total Information Awareness was criticized and abandoned as a whole, it still exists in pieces in programs with goals of predicting actions based on publicly available information including social media use, internet searches, financial market indicators and traffic webcams referred to as a 'data eye in the sky' (Markoff, 2011). While these indicate state and Department of Defense initiatives, parallel practices exist within the commercial industry. These technologies are part of a large system existing in the form of satellite surveillance and street cameras, watching from above, and from below in the form of tracking internet searches, consumption practices, demographic data, as sensors track where one is moving based on phone signals, airplane records, through toll plazas and other borders. The tracing of consumer information and behaviors through massive information gathering campaigns are part of larger monitoring and measuring operations that include the surveilling of spaces, land and movement. The flow of capital is replacing public service as a relational mode between citizens, states and businesses and supports neoliberal ideology that technologies operating by market mechanisms should and can solve social problems.

Arguing that the force of authoritative observation has become pervasive throughout society as it transformed into an internalized discipline of the self, Foucault's (1977) conception of the 'surveillance society' is organized into a systematic way of seeing as opposed to a secret, single perspective observation from above. This can be understood through both parallel and converging practices of state and industry databases of information to mitigate security threats as well as business risk. The datafication

based in technocratic logics of discernibility and prediction, is also a disciplined participation in these systems, as taking part requires an offering of data, placing oneself, in data form, firmly 'on the grid.'

Far from disparate use of innovative technologies, these practices constitute a wide system of surveillance reified by a logic of control and management of rational databases of information that trace and predict individual action. The bureaucratic management of information represents a 'commodification of information' where the state is governing through consumerism as a primary locator of human behavior. Collecting information on consumption patterns includes demographic information, such as where a consumer is located, who they buy gifts for, the multiple addresses where they have goods sent to, where they use credit cards, what they spend money on, where they fly, amongst many other things that is aggregated along with other information databases including phone records, medical histories, library use all of which can be collected by the government under the USA PATRIOT ACT under conditions of 'domestic terrorism' (Passavant, 2005).

What this indicates is a political governance based on market rationality in the calculation of risk, through economic promotion of companies as data collectors. Within Google Earth itself, consumer information collected by the company includes anonymous information on what locations are searched for, what directions from point to point are requested, and from what zip codes individuals are looking at businesses that are marked in Google Maps (Google 'Private Policy') The reciprocal exchange is that Google gives the user free tools, and the user then becomes a source of data for the company. These "'technologies of freedom' are, however, the very developments that enable even greater extensions of state power" (Passavant, 2005). Creating the commercial, legal and juridical system of governance through consumption has made the citizen consumer the object of scrutiny and the mechanism through which to track and assess risk based on the assemblage of information that categorizes human behavior and intent. This relationship constitutes infrastructural state power in extending into civil society by reducing private individual actions to a larger profile from which to assess threats to state security in addition to catering business advertising through disciplining a citizenry.

As Kaplan (2006) argues "at the turn of the century, technoscience and its networks produce target subjects through discourses of precise scales and sites of identity" (693). These sites follow certain practices such as consumption, shopping, web traffic, in order to create identity profiles, reducing individuals to disparate points and then recombining data of practices with other forms, such as locations, and other consumer profiles. Linking practices through similarities with other users to say, predict what else one might be interested in, or where they might shop, creates intricate data networks in which individuals are tracked alongside each other, but without knowing what 'group' they are part of. The links between users is only seen by the company, or state. Undeniably, this gaze was developed because of military needs and remains lodged in the distanced logic of seeing and collecting data from afar, largely invisible to the human eye. It mediates between two subjects on the ground as understood through a technology in which subjects are not visible to each other, nor as whole individuals, but are anonymous or associated only through geolocated sites, and individuated, yet correlative behaviors. The simultaneous fragmenting of subjects and building of databases of increasing information about subjects into behaviors, while at the same time

the neoliberal subject is tasked with self-management through calculating accessible information highlights the contradictory and complex nature of the information economy. This anonymity operates through a systematic ordering of identity, not targets as known subjects, but machine targets as correlated data points, calculated algorithmic predictions. So, this is an anonymous transparency, not creating visible subjects but scanning concealed behaviors. Identity is not a primary marker, but marked actions are. This points toward a new form of surveillance in that the target is not subjects, but data patterns and profiles.

The legal loss of privacy from above marks the legal-juridical mode through which self-discipline indicates an internalization of surveillance society. The Supreme Court (1986) decided that 'flyovers' by airplane and, presumably by extension, satellites, are considered accessible by the public and are therefore 'open fields' and so have no protection under the Fourth Amendment regarding protection from unreasonable searches and seizures. This, alongside the provisions of the PATRIOT ACT allows for greater visibility of formerly private, and protected realms, and the subsequent disciplining of self in response, as consciousness of digital 'paper trail' leads to behavior modification. Making private spaces transparent, based on a particular notion of publicly accessible air space, a place from which a view can be seen, extends notions of visuality to further spaces of possible seeing, based on freedom of access.

This freedom of access must be looked at more closely in relation to the possible productive capacities in which new practices, especially by the public are possible. The 'information society' has been characterized as a free flow of information, a mobility of knowledge, network associations and malleable relations that have replaced former binary associations such as state-citizen, or business-consumer. However, the claim that this move indicates democratic action on the basis of freedom and self-autonomy through information use must be further scrutinized. The circulation of digital information alongside a political economy of the disciplining free market presents conflicting optics of neoliberalism as framed through notions of freedom and transparency. The neoliberal subject, at once given the task of self management and autonomy through information access is at the same time is broken down within circuits of information, individuated into actions coded as data bytes, calculated as predictions, and profiled in relation to other subjects.

In a call for more scholarly attention to the relationship between science and neoliberalism, Kelly Moore et. al (2011) ask for "a political sociology of the contemporary scientific field [that] draws attention to countervailing pressures, from industry and the 'right hand' of the state on one side, which is concerned with issues of technology transfer and industrial competitiveness, and from civil society and the "left hand" of the state on the other side, with its goal of supporting science that serves a broad public interest" (28). Heeding warnings by Moore et al. to not reduce all scientific action to deliberate state or corporate interests, but rather to see homologous parallels in the scientific and political fields, looking at technology as within and between both of these fields illuminates the practices as they converge, especially as they work through citizen actors resulting in emergent relations between subjects and spaces. Through indications

of how the public is using imagery, the parallel between the reduction of space into a single digital register of correlated data points, and the data laden individual raises questions of exactly what form 'transparency' is taking and to what end.

CASES

An analytical look at how this neoliberal optic operates through networked platforms with new possibilities and effects, offers insight into the ways in which citizens have taken on new roles, replacing traditional state actors and working through emergent relations to space in new venues for seeing. Cases of how this vision is dispersed through other surveillant realms portray the complicated reformulations around public v. private, through the register of citizens and states alongside or through corporations. Transparency as politicized visibility is lodged in practices of watching and being watched, exposing new targets of spatialized technical optics.

Privatized Intelligence
Using freely available imagery from Google Earth in 2007, Curtis Melvin, created "North Korea Uncovered," a subset of a comprehensive website following the politics and economics of the country, with what it calls "the most authoritative map of North Korea on Google Earth". Through scouring Google Earth satellite images, and putting out calls for information and details from the web, Melvin and his collaborators have managed to create a map that "offers an extensive mapping of North Korea's economic, cultural, political, and military infrastructures" including roadways, airports, hospital, hotels, nuclear facilities and Supreme Leader Kim Jong Il's mansion. The detail includes looking for shadows of power lines strung from poles to map the electricity grid of the country, showing the disparity between towns that have electricity and those that do not. Along with several other "citizen snoops" (Ramstad 2009) and "amateur spies" (Diaz 2009) who contribute information, the intent is to literally 'uncover' a North Korea that was concealed. Indicating the reach of these maps, Senator Brownback of Kansas stated on the floor of Congress said "Google has made a witness of all of us. . . We can no longer deny these things exist," when pointing out prisons identified on the maps (Ramstad 2009). This indicates the attribution to a corporate actor as instigating and offering a way of seeing to create democratic accountability, a reconfiguration of the public v. private relationship to knowledge—tying state intelligence to democratic practices.
Melvin himself claimed, "It's democratized intelligence" (Ramstad 2009) defining these maps as disclosed public forms of state information. This reference associates the project closely with state spying, though it is deemed democratic because it is made public. "Intelligence" indicates useful knowledge that shows intentionality in its derivation and the association of satellite images as authoritative evidence or true depictions of a reality that can not be denied.
While impressive in the amount of detail layered onto the satellite images, there is little doubt that the United States has classified spy satellite images of North Korea at a much higher resolution than Google Earth. While Google 'made us see', this data has already been seen by the state, and doubtless much more is visible to certain tiers. Besides allowing the public to participate in the creation of data, and being more aware of

the infrastructure of the country, it is difficult to know exactly how this information contributes to democratic action beyond visual access. Google creates visual access, but the political target mimics the state gaze. The U.S. government certainly has lots of information beyond the geoinformational about North Korea that is not in the public sphere, and it is likely that North Koreans do not have access to Melvin's map (especially those without electricity). It does, however, bring awareness to the type of information that could be found through Google Earth, and the practices through which citizens can be empowered to act in a collaborative fashion, referred to as the "Wikipedia approach" as it was noted by a technology journalist in Tokyo, "If North Korea came out and published all this, no one would be interested. . . But when you're playing detective, it's a lot more fun" (Ramstad 2009). The act of participating in the revealing of data previously relegated to an exclusive sphere is important for the disclosure as an indication of what other 'secrets' might be hidden within public digital globes, what else can be rendered seeable through this standardized access.

In revealing information about such a 'secret' country, Melvin attempts to close the gap between state knowledge and public knowledge, through public action and interest. Similar projects that mimic state exposure in revealing hidden secrets by aggregating released or leaked information have exposed military site locations or even the compound of Osama Bin Laden before it was released (see Perkins and Dodge, 2009). These attempts to reveal what is kept secret by the state in an act of transparency, actually mimic surveillance mechanisms of the state, as the motto of one such website Cartome.org "reversing the panopticon" clearly promotes. Risk is managed by the state through keeping the highest resolution of images, anything more revealing than .5 m, classified so that the public has lesser quality information regardless of technological development, regulating through operating contracts (not laws). The hierarchy of information allows control over what the public sees, while still maintaining that this type of information from satellites offers greater world transparency precisely because it had before been relegated completely to the exclusive state sphere.

This example exhibits surveillance by citizens as a sort of democratic virtue, training citizens in 'seeing like a state', to use James Scott's (1988) phrase. Supplementing state knowledge that is concealed in a classified shadow archive, intelligence is made transparent through coalitions between corporations and consumers, while strengthening ideological notions of the national social body in contributing to a more visible world. However, what this information can be used for when opened to the mass public by single users, is unclear. While media reports critique the visible economic disparity between the 'Supreme Leader' and North Korean citizens (through the highlighted spectacle of his personal water slides), this mimics the discourse of the U.S. state visual 'evidence' of political claims and mapping engenders political economy in the narrative it tells.

Mass Spectatorship

With intent to encourage intervention by the U.S. state, a second type of surveillance is exemplified by the numerous humanitarian projects consisting of partnerships between satellite imaging companies and other non-state organizations. The Satellite Sentinel Project, conceived of by the actor George Clooney, "combines satellite imagery analysis and field reports with Google's Map Maker technology to deter the

resumption of war between North and South Sudan. The project provides an early warning system to deter mass atrocities by focusing world attention and generating rapid responses on human rights and human security concerns." (www.satsentinel.org) This publicized visual spectacle, through a celebrity marketing frame and visual evidence of events intends to produce an emotional and a political response, through a targeted visuality coined the "AntiGenocide Paparazzi" by Clooney (*Radio Free Europe*, 2011).

The founders of this site are asking others to witness the atrocity happening through the evidence provided and framed on the website with the motto "The World is Watching Because You are Watching". In a similar project "Eyes on Darfur" asked the public to watch over a number of villages to note when they were destroyed. However, this was done after the fact in a distancing of the viewer that removes responsibility of witnessing and instead hopes to deter future violence through assumptions that if a government is being watched, it will intervene. While the reports corroborate satellite evidence with other information sources, as Lisa Parks (2009) notes, there is no political history told, no analysis of actor groups, and no verification of who destroyed villages, leaving the political to be reduced to the visual (538). This prioritizes a stable, single time-stopped image over contextual meaning. While done to illicit connection between those viewing the images and the violence on the ground, with no actors visible in these images, the social is replaced by an interpretation of action that is privileged over an on the ground narrative account. The move between exposing the images, and others actually seeing them is one that is assumed in the claim of the 'watching world.' However, those in Sudan cannot see these websites because of U.S. sanctions, further highlighting the 'outsider' surveilling.

As described by a Harvard satellite image analyst working on the project: "satellite imagery before Google Earth had an almost exclusive, military connotation . . . Now it's demystified. I think what we're seeing then is going from this kind of state-centric, proprietary, extremely expensive technology that then is classified and only limited to a few individuals to a more open-source, open-data, very public, non-state approach to employing and leveraging these technologies, in a way, for some of the same ends -- to really monitor and do surveying and [derive] in some form or another some accountability." (*Radio Free Europe*, 2011) As the "first to show undeniable evidence of the targeting of civilians" the project calls on civilians to pressure public officials. (Revkin 2011) This 'demystification' of the technology imbues democratic ideology into practices by invoking public seeing as a new form of transparency. In fact, it presents the politically embedded technology as a scope to 'see' reality.

Technological distancing rather than on the ground reporting supports the claim that Google or other companies are changing the way that humanitarian crises are dealt with, reorganizing humanitarian responsibility from state to corporate intervention. The images, however, are only mediating devices holding visual authority expected to produce immediate reaction by the public, when the state (which, again, has higher quality images) has failed to act on its own will. The transparency claimed is to exposing set of images representing social actions that are disconnected and abstracted from the events on the ground. This further offers a new digital relationship to violence, replacing outside military intervention with transparent knowledge as motivation for action in a reversal of the traditional sources of knowledge about international conflict. The new

target is the public as spectator witnesses, creating a political economy of attention with a focus on particular spaces and the visual as indicative of consent or discontent of action. This further presents evidence against the state, in publicizing the inaction, but creating transparency is also displaying the inability to actually act on the ground.

Anonymous Targeting

A third way in which images are being used by the public as a form of surveillance is against individuals as proof of illegal acts within the United States. There are many examples of this from a town on Long Island using images to find illegal pools (Hathaway 2010), a family finding squatters on their vacation home, local law enforcement using images to find illegal marijuana growing, a means to calculate a municipal drainage fee in Houston, (Ehling, 2011) among increasing others. Additionally, a project to use military spy satellites against U.S. citizens has recently been cancelled due to concerns that using military spy technology for law enforcement would violate the Posse Comitatus lawwhich forbids such action (Gorman, 2009). But, increasingly, military tools and techniques are being used internally against citizens as they move from "green to blue" or from military to police (Lake, 2011). Because a Supreme Court ruling indicated that satellite images fall under the 'open fields' domain in which they are easily accessible by the public, there is no longer privacy from above and so no warrant is needed when using non-military, commercial images. Because of the freedom of action by corporations alongside the legality of using images as evidence, this sort of domestic spying can be undertaken by local law enforcement agency as proof of wrong doing. In this case, because the state has access to enormous databases of knowledge regarding private citizens and groups, and retains the ability to acquire information without individuals knowing, satellite images and other geolocational devices, such as GPS, contribute to the data rich profiles that rely on archives of information to define individuals, track social action and predict future intent. The atomizing of individuals through data profiles contributes to a discourse of transparency in which social action is reduced to a rational geographic grid that marks place. Because people are invisible in these images, the criminalizing of action is based on accountability for private property, linking identity to place and substituting images as extensions of private property. The individual actor is accountable to private company ownership of images that are used by agencies or the public with no grounds to ask how they were produced, when they were taken, or what other images might exist as the digital globe produced by Google is assumed to be an accurate and complete free library of social action as it is visually interpreted.

This sort of 'transparency' is counter to privacy, as surveillance is turned internally to criminalize citizens in a monitoring of what was once considered private space. In the case of the town of Riverhead, NY fining residents for illegal pools, after much criticism the city council cancelled the practice and decided to "only prosecute when pool violations can be seen from public areas." The relationship between public areas that can be seen and public information on the internet (though privately owned images) are considered separate practices in which only one is legitimated by public support. What makes the seeing from 'public areas' okay is the visual relationship between the spaces that doesn't required a mediated technology that is associated with

spying, or as addressed: "Big Brother's not watching anymore. At least not the pool." (*The Boston Globe* 2011) But the act of watching from a public area is assumed to be okay, as on the ground surveillance does not have the same marks of militarism through the technology used.

This anonymous, systematic, monitoring of private property rearticulates the target of surveillance from criminal actors to spaces themselves. The connection to the illegality is ownership of property, and so through a closed system of data connections— visual image to ownership records—the automation of policing replaces a criminal profile target as transparency reveals managed spaces. The shifting of privacy of space to images of that space as public reduces social action to the visualization of wrongdoing where an actor is not present or visible, yet the change in the practice of fining notes how public spaces of visuality are interpreted differently. Seeing from on the ground implies a specific seer, a subjective visualization versus the automated rendering of all spaces from the above perspective in which the surveillor is not exposed.

These cases lend the question of exactly what greater 'transparency' means. It was often claimed during the Cold War that because the United States was an 'open society' spy satellites were harmless against it as compared to the 'closed' Soviet world. This contemporary claim of transparency takes a new form when it is dispersed to an undefined public with unknown intentions. It is attributed with greater democratic legitimacy in a large part because it was established as exclusive and closed information. It is the act of revealing that has marked it as risky and important because of its militaristic history, rather than due to the content of what is shown. More information in the public sphere does not equal greater political knowledge or understanding and so access to images themselves and how they are presented as sources of evidence does not explain the politics on the ground. The informed and self-autonomous rational actor that is constructed through a neoliberal logic aligns a freedom of knowing and acting with greater democratic practices. This leaves the politics embedded in the construction of this technological knowledge further concealed.

In addition to access, the individual contributions and shared information added to the images by consenting participants in the networked data sphere is accumulated in aggregated, algorithmic databases. Ultimately, it is the organization of information and the discursive regime through which it is constituted that promotes it as enhancing democratic potential and overlooks its marking of militarism, capital accumulation and technopolitics. Constructed as 'risky' based on user intention furthers the question of access as the primary indicator of public autonomy, and so the practices are reduced to surveillance that mimic the military gaze rather than any higher democratic potential. This reduces location as image to fact, rather than an archive of information that shows difference and complexity of spaces that can be aligned with social narratives.

What these practices show is that the use of images as a tool of surveillance are not creating a general greater transparency or openness of state secrets of what had previously been hidden. Instead it is greater access to a tool through which to target specific sites and make claims against social groups—governments, citizens, or companies. This places image use as part of a larger regime of surveillance that does not necessarily contribute to more democratic knowledge, but instead creates visual markers

for social action that are used to 'prove' certain events happened in prioritizing the visual over the narrative. This access is not a total one, as internet access in itself is the only venue through which to view this technology. Because a publicly diffused surveillance system does not detect who is watching with what technologies, the anonymity of the practice of surveillance is that which creates the risk associated with this technology as there is no direct relationship between access and action.

Corporations are attributed with putting citizens on par with states as rational autonomous actors with access to previously undisclosed information, however, the state and the citizen are both acting as consumers, and the state is crafting the realm in which corporate freedoms are played out. The assembling of democratic values with the movement of capital and information exchange disperses disciplining mechanisms to local governments, NGOs, and private citizens, both spreading out risk and creating anonymous surveillance in which legitimacy is based on an idea that transparency is equal to that which has been previously hidden—an act of revealing which ties it to a military history that has been transformed as a movement of capital as a convergence of corporate and state power. In fact, with corporations gleaning massive data archives through the users of their digital globes, the subject who has access to this information is simultaneously disassembled into disparate data units used to better hone marketing practices. State logistical power, strengthened through risk governance in the datafication of social behavior as the social world is being increasingly quantified and coded, allows emerging forms of surveillance to move inward—to data mining and computation—while subjects follow old models of state surveillance in mechanical seeing from above.

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